Please find below and/or attached an Office communication concerning this application or proceeding.

– The MAILING DATE of this communication appears on the cover sheet with the correspondence address –

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on _02 March 2004_.

2a)☐ This action is **FINAL.**   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) _1-21_ is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) _1-21_ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on _____ is/are: a)☒ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _3/2/04 and 12/2/04_.

4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: _____.

DETAILED ACTION

1.   The instant application having Application No. 10/790,175 has a total of 21 claims

pending in the application; there are 3 independent claims and 18 dependent claims, all of which

are ready for examination by the examiner.

I. INFORMATION CONCERNING OATH/DECLARATION

Oath/Declaration

2.   The applicant's oath/declaration has been reviewed by the examiner and is found to

conform to the requirements prescribed in **37 C.F.R. 1.63.**

II. INFORMATION CONCERNING DRAWINGS

Drawings

3.   The applicant's drawings submitted are acceptable for examination purposes.

III. ACKNOWLEDGEMENT OF REFERENCES CITED BY APPLICANT

4.   As required by **M.P.E.P. 609(C)**, the applicant's submissions of the Information

Disclosure Statements dated March 2, 2004 and December 2, 2005 are acknowledged by the

examiner and the cited references have been considered in the examination of the claims now

pending. As required by **M.P.E.P 609 C(2)**, a copy of the PTOL-1449 initialed and dated by the

examiner is attached to the instant office action.

IV. OBJECTIONS TO THE SPECIFICATION

CLAIM OBJECTIONS

5.   Claim 2 is objected to because of the following informalities:

6.   Claim 2 recites the limitation "indicating a earlier time" in lines 3-4. It is believed that

this limitation contains a typographical error and should be – **indicating an earlier time** --.

7.   Appropriate correction is required.

V. REJECTIONS NOT BASED ON PRIOR ART

a. DEFICIENCIES IN THE CLAIMED SUBJECT MATTER

Claim Rejections - 35 USC § 101

8.   35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or
> any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and
> requirements of this title.

9.   **Claims 1-21** are rejected under 35 U.S.C. 101 because the claimed invention is directed

to non-statutory subject matter. These claims fail to produce a tangible result. The result is a

determination, which is nothing more than a thought or a computation within a processor. The

determination is not being applied in a meaningful way or brought into the real world. These

claims appear to need an additional step, e.g., processing the determined first time or the

determined remote copy requests.

10.   **Claims 8-14** are rejected under 35 U.S.C. 101 because the claimed invention is directed

to non-statutory subject matter. Applicant has claimed a "software system" in the preamble to

these claims; this implies that Applicant is claiming a system of software, per se, lacking the

hardware necessary to realize any of the underlying functionality.

11. Any claim not specifically addressed above, is being rejected as encompassing the deficiencies of a claim upon which it depends.

VI. **REJECTIONS BASED ON PRIOR ART**

Claim Rejections - 35 USC § 102

12. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

13. **Claims 1-2, 8-9 and 15-16** are rejected under 35 U.S.C. 102(b) as being anticipated by Duyanovich et al. (US 5,555,371).

14. As per **claim 1**, Duyanovich discloses "In a system including a plurality of primary storage subsystems and a plurality of secondary storage subsystems that are connected to each other via a network, a method for remotely copying data from each of a plurality of primary volumes to a corresponding secondary volume from a plurality of secondary volumes, wherein the primary volumes are presented by the primary storage subsystems, and wherein the secondary volumes are presented by the secondary storage subsystems," as [**"Primary data processing system 1 generates data that are to be backed up for disaster recovery purposes. Secondary data processing system 2 receives such data for disaster backup and recovery"** (Column 6, lines 49-52) and also explains that **"System inter-connection 3 operatively couples primary system 1 and secondary system 2 for effecting remote dual copying"** (Figure 2 and Column 7, lines 55-57)]

"the method comprising the steps of: receiving, at each of the secondary storage subsystems,

remote copy requests each of which is associated with a timestamp from at least one of the

plurality of primary storage subsystems;" [**Duyanovich discloses this limitation as "time**

stamps may be maintained in a host systems and sent with each input-output (IO)

operation" (Column 8, lines 28-29) wherein "the primary system 1 creates a remote copy

session over system inter-connection 3 with secondary system" (Figure 2 and Column 8,

lines 34-36)]

"receiving, at each of the secondary storage subsystems, synchronizing requests each of which is

associated with a timestamp from a corresponding primary storage subsystem;" [**Duyanovich**

discloses this concept as it is taught that "for obtaining congruence between the systems 1

and 2 copies of data, it is necessary to determine the primary system 1 update sequence in

secondary system 2" (Column 9, lines 36-39), "the primary host then generates a COMMIT

command and inter-system message to be sent to secondary system 2" (Figure 2 and

Column 14, lines 21-22) wherein "the COMMIT issuing host system 12 creates a times

stamp for the COMMIT function" (Column 14, lines 24-25), after this COMMIT

command, "secondary data-storage system updates secondary directory" (Column 14, lines

30-31) and also discloses that this action "provides update integrity in secondary system 2

of the updated data for ensuring congruence of the remote data copy in the secondary

system 2 to the primary copy in primary system 1" (Column 14, lines 49-52) as a command

sent from a host to synchronize a data storage system with another data storage system.

Duyanovich also explains that "a host systems such that primary data-storage system

maintains a time stamp value synchronized with the host system time stamp clock"

(Column 8, lines 31-33) as time stamps are later used to synchronize a secondary system with "primary data-storage system"]

"determining, at each of the secondary storage subsystems, a first time as a first time parameter based on the timestamps included in the sync requests;" [With respect to this limitation, Duyanovich discloses that "the COMMIT issuing host system 12 creates a times stamp for the COMMIT function" (Column 14, lines 24-25)" wherein "the delayed updating of secondary directory is effective as of the latest time stamp value in the COMMIT command" (Column 20, lines 35-36)]

"and determining, at each of the secondary storage subsystems, which remote copy requests to process based on the first time parameter and timestamps associated with the remote copy requests" [With respect to this limitation, Duyanovich discloses that "along with each dual data copy is a time stamp (time of updating indication) and indication of the subsystem used to write the data to primary data-storage system 13. These time stamps and sequence numbers are stored in pending write directory 35 along with identification of the dual copied data and the address at which such dual copied data are stored in secondary data-storage system 19. Such time stamps will be used later to select which data to make addressable in the second data-storage system 19. That is, updating secondary directory 34 is deferred until termination of a current pending write session" (Column 9, 55-65)].

15.   As per **claim 2**, Duyanovich discloses "The method of claim 1," [**See rejection to claim 1 above**] "further comprising: performing, at each of the secondary storage subsystems, write processing in accordance with remote copy requests that are associated with timestamps indicating an earlier time than the first time" [**With respect to this limitation, Duyanovich**

discloses that a "when the consistency means determines that all of the updates are
complete to the primary data-storage system, then the secondary LSA (DASD) directory is
updated as of a predetermined time stamp value" (Column 6, lines 46-48) wherein "the
delayed updating of secondary directory is effective as of the latest time stamp value in the
COMMIT command" (Column 20, lines 34-36) and further teaches an example in which
timestamp values earlier than "the lowest time stamp value received from any one
subsystem" are included in a current write update session (Column 32-39). Duyanovich
also discloses that "secondary data mover receives and records the received data in
secondary data-storage system, logs the associated received write sequence tokens in a
suitable memory for later use in the delayed update of secondary directory updating for
establishing addressability of the recorded data via secondary directory" (Column 14, lines
10-16)].

16.   As per **claims 8 and 15**, these claims require:

"means for receiving, at each of the secondary storage subsystems, remote copy requests
which are each associated with a timestamp from at least one of the plurality of primary storage
subsystems;" (*page 9, paragraph 0043 of Applicant's specification appears to define this
means as CH CTL (channel controllers) 203 which store remote copy requests in remote copy
queue 115*) [Duyanovich teaches this limitation as "pending write update session ID is
supplied to all receiving controllers 14" (Figure 2 and Column 9, lines 20-21) and also
discloses having a "time stamp indicating when a controller 14 received the write
command" (Column 7-8) as having "controller 14" be a receiving controller. Duyanovich
also teaches that "DSM (data serializer and mover) 104 tracks the requests by generating a

table of requests" (Column 12, line 38-39) which is used for the same purpose as queue 115

as described by applicant]

"means for receiving, at each of the secondary storage subsystems, synchronizing

requests which are each associated with corresponding timestamps from corresponding primary

storage subsystems; (*page 9, paragraph 00043 of Applicant's specification appears to define*

this means as disk CTL (controller) 208 and page 8, paragraph 0037 of Applicant's

specification define synchronize time table 111 as storage for synchronization requests)

[Duyanovich teaches this limitation as "In response to selected host system 16 issuing the

above described COMMIT command and inter-system message, the controller updates

secondary directory entries 76 and 80 using the data in pending write directory 25, all as

indicated by lines 90" (det 51). Duyanovich also discloses that "DSM (data serializer and

mover) 104 tracks the requests by generating a table of requests, sequence numbers and

time stamps" (Column 12, line 38-39)]

means for determining, at each of the secondary storage subsystems, a first timer as a first

time parameter based on the timestamps included in the sync requests; (*page 8, paragraph 0035*

of Applicant's specification defines this means as Remote Copy Manager (RCM) 105)

[Duyanovich teaches this limitation as "host processors 12 and 16 that manage the remote

dual copying processes" (Column 11, lines 27-29). Duyanovich also teaches that "DSM 104"

determines "the lowest time stamp value it has received from any one subsystem in the

current write update session" (Column 19, lines 42-44)]

means for determining, at each of the secondary storage subsystems, which remote copy

requests to process based on the first time parameter and timestamps associated with the remote

copy requests (*page 8, paragraph 0035 of Applicant's specification defines this means as*

Remote Copy Manager (RCM) 105) **[Duyanovich teaches this limitation as "host processors**

12 and 16 that manage the remote dual copying processes" (Column 11, lines 27-29) and

also teaches that "consistency means determines that all of the updates are complete to the

primary data-storage system, then the secondary LSA (DASD) directory is updated as of a

predetermined time stamp value" (Column 6, lines 16-19) and that "secondary data mover

108 receives the inter-system messages sent by the primary system 1 via VTAMs 106,

extracts and maintains the write sequence tokens, and records the received primary system

1 updated data in secondary data-storage system 19" (Figure 2 and Column 13, lines 13-

17)]

17.   As per **claims 9 and 16**, these claims require:

"means for write processing, at each of the secondary storage subsystems, in accordance with

remote copy requests that are associated with timestamps indicating an earlier time than the first

time" (*page 9, paragraph 0043 of Applicant's specification defines this means as Disk CTL*

208) **[Duyanovich teaches this limitation as "secondary host system for writing copied**

update data to secondary peripheral data-storage system 19" and "secondary host

processor 18" (Figure 2 and Column 22, lines 41-43)].

Claim Rejections - 35 USC § 103

18.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in
> section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are
> such that the subject matter as a whole would have been obvious at the time the invention was made to a person
> having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the
> manner in which the invention was made.

19.   **Claims 3-7, 10-14 and 17-21** are rejected under 35 U.S.C. 103(a) as being unpatentable

over Duyanovich et al. (US 5,555,371) in view of Li et al. (US 6,938,045).

20.   As per **claim 3**, Duyanovich discloses "The method of claim 1," **[See rejection to claim**

1 above] further comprising: managing at each of the secondary storage subsystems, a time

parameter for each of the primary storage subsystems as **[With respect to this limitation,**

Duyanovich discloses that "the time for time stamps is initialized in primary data-storage

system by a host system such that primary data-storage system maintains a time stamp

value synchronized with the host system time stamp clock. Then primary system 1 creates a

remote copy session over system interconnection with secondary system" (Column 8, lines

30-36)] and also discloses having a sync request wherein a secondary storage system will

processes all pending write requests having time stamp values lower than a time stamp value

indicated by this sync request as **["the primary host then generates a COMMIT command**

and inter-system message to be sent to secondary system 2" (Figure 2 and Column 14, lines

21-22) wherein "the COMMIT issuing host system 12 creates a times stamp for the

COMMIT function" (Column 14, lines 24-25), after this COMMIT command, "secondary

data-storage system updates secondary directory" (Column 14, lines 30-31) and also

discloses that this action "provides update integrity in secondary system 2 of the updated

data for ensuring congruence of the remote data copy in the secondary system 2 to the

primary copy in primary system 1" (Column 14, lines 49-52). Please note that "COMMIT"

command is equivalent to a sync request (Column 20, lines 29-36)] but fails to disclose

expressly having "a second time parameter," nor "updating corresponding second time

parameters at each of the secondary storage subsystems in response to whether timestamps

associated with the sync requests indicate a later time than the corresponding second time

parameters of the second storage subsystems."

Li discloses having "a second time parameter" and "updating corresponding second time

parameters at each of the secondary storage subsystems in response to whether timestamps

associated with the sync requests indicate a later time than the corresponding second time

parameters of the second storage subsystems" as ["**the present invention relates to a computer**

system architecture for synchronizing two remote, and independent, computer servers

intended for maintaining duplicates of each other's files" (Column 1, lines 10-13) wherein

"a first aspect provides a File-Modified-Date (FMD) parameter and a Directory-Modified-

Date (DMD) parameter used for synchronizing changes made to a file package (i.e. a

collection of files) stored in a first computing device with an associated database" as

providing a first and a second time parameters. Li also teaches that "**A second aspect of the**

invention assumes that the first and second computing devices are part of a local, first file

server, and provides a first Package-Modified-Date (PMD) parameter stored within the

first file server and associated with a specific file package, and provides a second Package-

Modified-Date (PMD) parameter stored in a second database maintained in a remote,

second file server." And explains that **"the first and second PMD parameters permit the**

local file server and the remote file server to synchronize their respective databases and

associated file packages" (Columns 2-3, lines 59-67 and 1-6) as further explaining the

existence of first and second time parameters used to synchronize two remote data storage

systems. Li discloses that **"if the DMD parameter indicates a more recent change, then the**

first computing devices updates the data record in the second computing device.

Furthermore, the FMD parameter in the second computing device is made equal to the

DMD parameter from the first computing device" (Column 3, lines 37-43) as

demonstrating updates made to a second time parameter].

Duyanovich et al. (US 5,555,371) and Li et al. (US 6,938,045) are analogous art because

they are from the same field of endeavor of remote copying and synchronization of data storage

systems.

At the time of the invention it would have been obvious to a person of ordinary skill in

the art to modify the remote data copying system as taught by Duyanovich which includes a

synchronization request, further include a second time parameter which is modified when the

sync requests indicate a later time than the corresponding second time parameters as changes

made to a first storage system need to be updated in a second storage system as taught by Li.

The motivation for doing so would have been because Li teaches that ["the first and

second PMD parameters permit the local file server and the remote file server to

synchronize their respective databases and associated file packages" (Column 3, lines 4-6)

and also explains that the invention permits "a database on a first computing device to

synchronize itself with changes to an associated file package in another computing devices

without requiring that the database be notified of modifications to the file package on a

change-by-change basis" (Column 2, lines 38-44)].

Therefore, it would have been obvious to combine Li et al. (US 6,938,045) with

Duyanovich et al. (US 5,555,371) for the benefit of creating a remote data copying system to

obtain the invention as specified in claim 3.

21.   As per **claims 4, 11 and 18**, the combination of Duyanovich and Li discloses "claims 3,

10 and 17," [See rejection to claim 3 above and rejection to claims 10 and 17 bellow]

"wherein the first time is the earliest time indicated by the second time parameters" [With

respect to this limitation Duyanovich discloses an example in which timestamp values

earlier than "the lowest time stamp value received from any one subsystem" are included

in a current write update session (Column 32-39) as having the earliest time be a cutoff

time to update/synchronize a second storage system with a first storage system].

22.   As per **claim 5**, Duyanovich discloses "The method of claim 1," [See rejection to claim

1 above] but fails to disclose expressly "determining a second time with which the secondary

storage subsystems are synchronized based on the first time determined by the secondary storage

subsystems."

Li discloses "determining a second time with which the secondary storage subsystems are

synchronized based on the first time determined by the secondary storage subsystems" as ["first

and second PMD parameters permit the local file server and remote file server to

synchronize their respective databases and associated file packages" (Column 3, lines 4-6)

wherein one synchronization scheme comprises a "local server" sending "a first time

stamp" to the "remote file server" and a "remote server" sending a "second time stamp" to

the "local file server;" then each server "would identify an offset-time" as the difference

between its time and the received time. "The identified offset would be added or

subtracted, as appropriate, to one of the PMD parameters to shift it to the same timing

reference as the other PMD parameter" (Column 4, lines 27-49) as providing a method to

determine a second time used to synchronize secondary and primary data storage systems].

Duyanovich et al. (US 5,555,371) and Li et al. (US 6,938,045) are analogous art because they are from the same field of endeavor of remote copying and synchronization of data storage systems.

At the time of the invention it would have been obvious to a person of ordinary skill in the art to modify the remote data copying system as taught by Duyanovich, further determine a second time at which a secondary storage system is synchronized with a primary storage system as taught by Li.

The motivation for doing so would have been because Li teaches that ["the first and second PMD parameters permit the local file server and the remote file server to synchronize their respective databases and associated file packages" (Column 3, lines 4-6) and also explains that the invention permits "a database on a first computing device to synchronize itself with changes to an associated file package in another computing devices without requiring that the database be notified of modifications to the file package on a change-by-change basis" (Column 2, lines 38-44). Li further explains that "various approaches" may be used to determine which of the PMD parameters from the local file server or the remote local server indicates the most recent change to a data record (Column 4, lines 28-31) and teaches finding a second time to synchronize two data systems as one of the approaches (Column 4, lines 31-49)].

Therefore, it would have been obvious to combine Li et al. (US 6,938,045) with Duyanovich et al. (US 5,555,371) for the benefit of creating a remote data copying system to obtain the invention as specified in claim 5.

23.   As per **claims 6, 13 and 20**, the combination of Duyanovich and Li discloses "claims 5,

12 and 19" **[See rejection to claim 5 above and rejections to claims 12 and 19 bellow]**

"further comprising: changing, at each of the secondary storage subsystems, the first time

parameter to the second time" **[With respect to this limitation, Li discloses that in a case**

when a "first and second computing device, C1 and C2, ma have differing time references,"

then "first computing device C1 and fourth computing device C4 exchange current time

stamps (in accordance with their respective local clocks CK1 and CK2) along with the

initial exchange of their PMD parameter" (Column 10, lines 46-54)].

24.   As per **claims 7, 14 and 21**, the combination of Duyanovich and Li discloses "claims 5,

12 and 19" **[See rejection to claim 5 above and rejections to claims 12 and 19 bellow]**

"wherein the second time is determined when the remote copying is suspended" **[With respect**

to this limitation, Duyanovich discloses that "termination of a pending write update session

is signaled by primary system by issuing a COMMIT command" wherein "at such

termination of each write update session, the secondary directory in the system is updated

as of a certain time indicated by a time stamp" (Column 10, lines 43-47) as providing a

cutoff time to initial synchronization and suspend remote copying].

25.   As per **claims 10 and 17**, these claims require:

"means for managing, at each of the secondary storage subsystems, a second time parameter for

each of the primary storage subsystems, and for updating the corresponding second time

parameters in response to timestamps associated with the sync requests that indicate a later time

than corresponding second time parameters of the second storage subsystems" (*page 8,*

paragraph 0035 defines this means as Remote Copy Manager (RCM) 105 and paragraph 0037

explains the use of time parameter 112 and consistency group table 113) **[With respect to this limitation, Duyanovich discloses "host processors 12 and 16 that manage the remote dual copying processes" (Column 11, lines 27-29) and also teaches that "consistency means determines that all of the updates are complete to the primary data-storage system, then the secondary LSA (DASD) directory is updated as of a predetermined time stamp value" (Column 6, lines 16-19) and that "secondary data mover 108 receives the inter-system messages sent by the primary system 1 via VTAMs 106, extracts and maintains the write sequence tokens, and records the received primary system 1 updated data in secondary data-storage system 19" (Figure 2 and Column 13, lines 13-17)]. Li further discloses that "Any database organizer may initiate a database synchronization routine with any other database organizer via network 13" (Column 10, lines 8-10) and provides a "database organizer" for each storage system (Figure 5)].**

26.   As per **claims 12 and 19**, these claims require:

"means for determining a second time with which the secondary storage subsystems are synchronized based on the first time determined by the secondary storage subsystems" (*page 8, paragraph 0035 defines this means as Remote Copy Manager (RCM) 105 and paragraph 00337 explains the use of time parameter 112 and consistency group table 113*) **[With respect to this limitation, Duyanovich discloses "host processors 12 and 16 that manage the remote dual copying processes" (Column 11, lines 27-29) and also teaches that "consistency means determines that all of the updates are complete to the primary data-storage system, then the secondary LSA (DASD) directory is updated as of a predetermined time stamp value" (Column 6, lines 16-19) and that "secondary data mover 108 receives the inter-system**

messages sent by the primary system 1 via VTAMs 106, extracts and maintains the write

sequence tokens, and records the received primary system 1 updated data in secondary

data-storage system 19" (Figure 2 and Column 13, lines 13-17)]. Li further discloses that

"Any database organizer may initiate a database synchronization routine with any other

database organizer via network 13" (Column 10, lines 8-10) and provides a "database

organizer" for each storage system (Figure 5)].

VII. RELEVANT ART CITED BY THE EXAMINER

27.   The following prior art made of record and not relied upon is cited to establish the level

of skill in the applicant's art and those arts considered reasonably pertinent to applicant's

disclosure. See **MPEP 707.05(c)**.

28.   The following references teach synchronization schemes for multiple data storage

systems comprising a "request for synchronization."

U.S. PATENT NUMBER

US 2002/0116405

US 6,694,335

US 6,321,236

29.   The following references teach systems and method to synchronize a data storage system

with another data storage system used for backup.

U.S. PATENT NUMBER

US 6,065,018

US 6,539,381

VIII. CLOSING COMMENTS

Conclusion

a. STATUS OF CLAIMS IN THE APPLICATION

30.   The following is a summary of the treatment and status of all claims in the application as

recommended by **M.P.E.P. 707.07(i)**:

a(1) CLAIMS REJECTED IN THE APPLICATION

31.   Per the instant office action, claims 1-21 have received a first action on the merits and are

subject of a first action non-final.

b. DIRECTION OF FUTURE CORRESPONDENCES

32.   Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Yaima Campos whose telephone number is (571) 272-1232. The

examiner can normally be reached on Monday to Friday 8:30 AM to 5:00 PM.
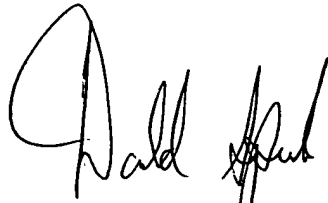
IMPORTANT NOTE

33.   If attempts to reach the above noted Examiner by telephone are unsuccessful, the

Examiner's supervisor, Mr. Donald Sparks, can be reached at the following telephone number:

Area Code (571) 272-4201.

The fax phone number for the organization where this application or proceeding is

assigned is 571-273-8300. Information regarding the status of an application may be obtained

from the Patent Application Information Retrieval (PAIR) system. Status information for

published applications may be obtained from either Private PAIR or Public PAIR. Status

information for unpublished applications is available through Private PAIR only. For more

information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions

on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-

9197 (toll-free).

January 20, 2006   Yaima Campos
                                                                   Examiner
                                                                   Art Unit 2185

DONALD SPARKS
SUPERVISORY PATENT EXAMINER